



**National
Aerospace
Laboratories**

Class RESTRICTED

No. of copies 25

Title Design and Development of an Airblast Atomiser for the KAVERI engine and the sectoral combustor tests

Author/s Chidananda, M.S.,
Venkatesh, S.
Jagannatha Rao, B.
Krishna Kumar, V.S.

Division PROPULSION

NAL Project No. PR-O-162

Document No. PD PR 9324

Date of issue September 1993

Contents ☐ *Pages* ☐ *Figures* ☐ *Tables* ☐ *References*

External Participation GAS TURBINE RESEARCH ESTT., B'lore.

Sponsor Gas Turbine Research Establishment, Bangalore 93

Approval  Head, Propulsion Division

Remarks

Keywords AIR BLAST ATOMISER/TWO FLUID ATOMISER/ ANNULAR
COMBUSTOR / SECTOR TEST

Abstract

This report deals with the design and development of an airblast atomiser for application in the KAVERI engine. Five atomisers of the chosen design were fabricated and tested at ambient conditions to determine the fuel spray SMD, patternation, cone angle and atomiser flow number. The atomiser performance parameters specified were achieved and hot tests carried out in the 90° combustor sector. The combustor pressure loss, exit temperature distribution, ignition and stability limits were evaluated.